snapAG PESTICIDES

ORGANIC AND SYNTHETIC PESTCIDES

#2 IN A SERIES OF 6

WHAT'S the difference?

Pesticides are substances used to manage diseases, insects and weeds. They are an important tool for ensuring there is enough food for everyone by preventing or minimizing damage from pests (insects, weeds and fungal diseases).[1]

- **Organic pesticides** include minerals mined from the ground or derived from natural sources. An example is **pyrethrin**, a natural insecticide which can be extracted from chrysanthemums. Many organic pesticides include ingredients such as soaps, lime-sulfur, fermented vinegar and hydrogen peroxide.
- **Synthetic pesticides** are generally synthesized from basic elements using chemical reactions. While some synthetic pesticides are also found in nature, most are not. An example of a pesticide found in nature that can be produced synthetically is **glufosinate** (a herbicide originally derived from microbes). Pyrethrin (mentioned above) is another example.

Using sweep net to check for insects

Farming and pesticides

Although PREVENTION is the first line of defence, both organic and conventional farmers use pesticides. Several agencies certify farm production as “organic” and each has its own list of approved and prohibited substances, but all must adhere to the Canadian Organic Standard and use only substances listed on the "Permitted Substances List".[2]

ALL pesticides used by both organic and conventional farmers must be approved and regulated by Health Canada’s Pest Management Regulatory Agency (PMRA).

Copper Sulphate

NATURAL IS **NOT** NECESSARILY **SAFER**

Pesticides, whether from natural or synthetic sources, range from low to high toxicity. In fact, some natural pesticides can be more dangerous than synthetic ones used for the same purpose.[3] An example of a natural pesticide that is quite toxic is copper sulphate which is used to kill bacteria and fungi that infect fruit, vegetable and field crops.

The Canadian Food Inspection Agency (CFIA) tests both non-organic and organic foods for chemical residues as part of the National Chemical Residues Monitoring Program.

MANY PLANTS **NATURALLY** CONTAIN TOXINS

Did you know foods like lima beans and apples naturally contain cyanide, a well-known deadly poison?

An apple seed contains cyanide. The dose, however, is small. Just because you accidentally eat an apple seed does not mean you will die. The seed will pass through your body whole, or, if you chew it, your body will detoxify the small amount of toxin in it.

In small amounts, many substances will not affect or may even be beneficial to human health, while in large amounts, they can be harmful or even deadly. One such example is vitamin B.

ORGANIC AND SYNTHETIC PESTICIDES

BOTH conventional and organic farming methods focus on being able to grow food into the future and ensuring the health of the land for generations to come. Both methods also focus on the production of safe and healthy food.

Biological control

is an approach that both organic and conventional farmers can use for pest control. This method involves the deliberate use of a weed's natural enemies, such as insects, mites, bacteria or fungi to suppress weeds. These "control agents" feed on or cause disease in the weed, thereby limiting its growth, reproduction and spread. For example, the scentless chamomile seed head weevil and scentless chamomile gall midge are being used to fight scentless chamomile, a common noxious weed that grows in ditches and green spaces and on agricultural land across Canada.[4]

Field pea crop containing weeds

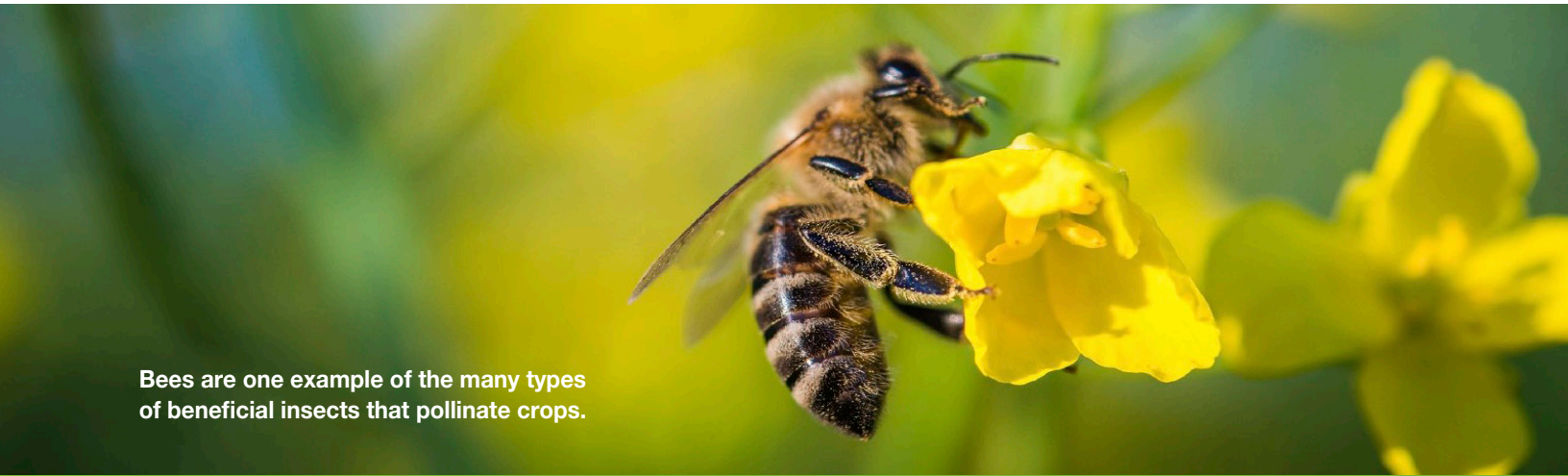
Scentless camomile

WHAT IS INTEGRATED PEST MANAGEMENT?

Integrated Pest Management (IPM) uses a diverse approach that utilizes a broad range of techniques, both cultural and chemical, to manage pests. Farmers closely monitor fields to determine when, or if, the presence of pests has reached a level that requires them to take some kind of action.

IPM incorporates complementary techniques such as crop rotation, soil tillage, pesticide application and biological controls.

Advancements in the science of pest management and today's safer, more targeted pest control products are helping farmers reduce their environmental footprint.[5]



Bees are one example of the many types of beneficial insects that pollinate crops.

References available @ www.aitc-canada.ca